Performance Measure Profile

General Aviation Fatal Accident Rate

FY 2013 Methodology Report

Federal Aviation Administration

Performance Measure Applicability	
☒ **DOT Strategic Plan** Goal: Safety Outcome: Reduction in transportation-related fatalities and injuries. Measure: Reduce the general aviation fatal accident rate per 100,000 flight hours to no more than 1.06 in FY 2013. ☒ **Agency Priority Goal**	☒ **Destination 2025** Goal: Move to the Next Level of Safety Outcome: There is a reduction in the general aviation fatal accident rate. Metric: Reduce the general aviation fatal accident rate to no more than 1 fatal accident per 100,000 flight hours by 2018.

FY 2013 Performance Target

Reduce the general aviation fatal accident rate to no more than 1.06 fatal accidents per 100,000 flight hours in FY 2013.

Lead Organization: Aviation Safety (AVS)

	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Target	1.11	1.10	1.08	1.07	1.06
Actual	1.17	1.10	1.13[1]	1.10[2]	TBD

Definition of Metric

Metric Unit:	Number of fatal accidents per 100,000 flight hours.
Computation:	The number of general aviation fatal accidents divided by the number of flight hours.
Formula:	$\frac{\text{Number of general aviation fatal accidents}}{(\text{Number of general aviation flight hours} / 100{,}000)}$
Scope of Metric:	This metric includes U.S. registered on-demand (non-scheduled Federal Aviation Regulation (FAR) Part 135) and general aviation flights. General aviation comprises a diverse range of aviation activities, from single-seat homebuilt aircraft, helicopters, and balloons, single and multiple engine land and seaplanes, to highly sophisticated, extended range turbojets.
Method of Setting Target:	The three safest years in general aviation history (Jun 2006-May 2008) were used as the baseline. Government and industry consensus was to target a 10 percent reduction in 10 years from this baseline. Each year's annual target is a linear reduction to achieve the overall 10 percent reduction in 10 years. Therefore, we do not have targets beyond 2018.

Why the FAA and/or DOT Choose this Metric

The success of FAA and industry collaborative safety initiatives continues to drive the general aviation fatal

[1] Preliminary estimate, final data will be available in December 2013.
[2] Preliminary estimate, final data will be available in March 2014.

accident rate lower. This metric was adopted in FY 2009 to replace the existing general aviation fatal accident metric. The FAA and the general aviation community have determined that a general aviation fatal accident rate rather than the number of fatal accidents is a better performance metric because the rate reflects fleet activity levels and their relationship to the number of fatal accidents. The Fatal Accident Rate is a true rate-based metric and tracks changes in the fatal accident rate for a fixed volume of flight hours (per 100,000).

Public Benefit

By tracking the rate of fatal accidents per flight hours, FAA can more accurately pinpoint safety concerns or trends indicating potential safety risks.

Partners

Partners include the National Transportation Safety Board's (NTSB), FAA Office Aviation Policy and Plans (APO) and the FAA and Industry General Aviation Joint Steering Committee (GAJSC): AOPA, GAMA, NBAA, EAA, academia, etc.

External Factors Affecting Performance

Approximately 80 percent of general aviation fatal accidents relate directly to some form or combination of human factors. These run the gamut of external organizational influences, inadequate supervision, personnel factors (such as self-imposed stress), to individual acts, such as, skill-based errors, misperception errors, judgment and decision-making errors, etc. These human factor influences are occurring in a broad spectrum of general aviation activities from more highly regulated on-demand air taxi service in sophisticated aircraft, to more loosely regulated recreational flying in homebuilt aircraft. While accident causation can be thoroughly investigated and understood by FAA, as a practical matter, the FAA's ability to influence basic decisions by every pilot, every day, and in every circumstance to prevent the accidents becomes much more difficult.

Source of the Data

The data for general aviation fatal accidents comes from the National Transportation Safety Board's (NTSB) Aviation Accident Database. Aviation accident investigators, under the auspices of the NTSB, develop the data.

Annual flight hours are derived from the FAA's annual General Aviation and Part 135 Activity Survey. The FAA's Forecast and Performance Analysis Division, APO-100 provides current year estimates.

Statistical Issues

The NTSB determines the actual number of general aviation fatal accidents. Since this is a simple count of accidents, there are no statistical issues relevant to this data.

The survey data for activity is highly accurate with a percent-standard error of less than 1 percent. The general aviation community and the GAJSC of the Safer Skies initiative, recommended development of a data collection program that will yield more accurate and relevant data on general aviation demographics and utilization. Improved survey and data collection methodologies have been developed.

As a result of these efforts, FAA, working with the General Aviation Manufacturers Association, the NTSB, and other aviation industry associations, has made many improvements to the survey. First, the sample size has significantly increased. Second, a reporting form has been created to make it much easier for organizations with large fleets to report. Third, the agency worked with the Aircraft Registry to improve the accuracy of contact information. As a result, an improved survey was completed in FY 2004. This survey created, for the first time, a statistically valid report of activity on which the general aviation community could agree. Each year since 2004, significant improvements have been made which, in turn, substantially improved the accuracy of the data.

The GAJSC General Aviation Data Improvement Team worked closely with the general aviation community and industry to develop this performance metric and target. There was unanimous support and consensus for the metric and target.

Completeness

The number of general aviation fatal accidents, even when reported as preliminary, is very accurate. When final reports are issued, the number of fatal accidents does not change significantly. NTSB classifications are considered final when the Board issues their annual press release. Accidents during a fiscal year are

addressed in the NTSB press release issued at the end of the following year.

GA Survey calendar hours are finalized by December 31 of the following year. APO will then update the FAA Forecast Conference for March. Hence, the fatal accident rate for FY 2013 will not be considered final/complete until March 2014.

Reliability

The FAA uses performance data extensively for program management, and personnel evaluation and accountability. Most accident investigations are a joint undertaking between FAA and NTSB. NTSB has the statutory responsibility, but, in fact, FAA Aviation Safety Inspectors conduct most of the accident investigations related to general aviation without NTSB direct involvement. The FAA's own accident investigators and other FAA employees participate in all accident investigations led by NTSB investigators.